

Curriculum Vitae: Mr HJ STEYN

Name : **STEYN, HERMANUS JOHANNES**
Date of Birth : 15 January 1983
Profession/Specialisation : Civil Engineering
Years with Firm : 10
Nationality : South African
Years experience : 10

Key qualifications

Hermanus is a civil engineer with more than ten years' experience. He is currently a project design leader in Aurecon's Cape Town office, where he is responsible for the design, planning, cost estimates, documentation and project management of highway and transport-related projects.

He has diverse experience with regards to transport and stormwater engineering design and management. His experience includes route planning, detail geometric design, drainage design, road signs and markings, road safety, cost estimates and contract documentation for a variety of road and rail projects. Other experience entails the planning and detail design of a number of overloading control facilities.

His experience also includes the planning and design of civil infrastructure for a number of energy projects including several wind and solar renewable energy projects.

Besides working on projects in South Africa, he has extensive experience working in countries such as Angola, Mozambique, Malawi, Namibia, Nigeria, Tanzania and Zambia.

Hermanus holds an honours degree in transportation engineering from the University of Pretoria, which he obtained in 2007. He is also a registered professional engineer with the Engineering Council of South Africa (ECSA). In 2010 he completed a course in Labour Intensive Construction (LIC7) presented by SAVE and accredited by CETA.

Employment record

03/2009 - Date	Aurecon (previously Africon, Ninham Shand & Connell Wagner)	Project Design Leader
01/2006 - 02/2009	Africon,	Junior/Design Engineer

Experience record

Detail design of five substation platforms for various Wind Energy Facilities near Humansdorp (Eastern Cape Province), Prieska and Sutherland (Northern Cape), South Africa 02/2016 – Date.

Project Design Leader – Civil. Aurecon was appointed to provide the detail design for the new substations for various Wind Energy Facilities (IPP & Eskom yards). Responsible for the detail design of the substation platform, platform levels and layout including required drainage. Involved for 1 person-month. (Consolidated Power Projects (Pty) Ltd).

Detail design of the substation platform for Mothibistat Substation near Kuruman (Northern Cape Province, South Africa) 11/2015 – Date.

Project Design Leader-Civil. Aurecon was appointed to provide the detail design for the new substation. Responsible for the detail design of the substation platform, platform levels and layout including required drainage. Involved for 2 person-month. (Eskom).

Transport Management Plans for solar facilities (Vryburg & Lichtenburg, North-West Province, South Africa) 03/2016 – Date.

Project Design Leader. The project entailed the development of a 40MW PV solar facility. Aurecon was appointed by the Biotherm Energy to conduct a transport study in order to confirm access routes and access points for the proposed solar development. Responsible for the assessments and preparation of the report. Involved for 1 person-months. (BioTherm Energy).

Detail design Winelands flood damage repairs (Worcester, Western Cape Province, South Africa) 03/2015 - Date.

Project Design Leader. Aurecon was appointed for the detail design and supervision of the flood damage repairs for the Winelands flood damage repairs in the Worcester area for the 2013/2014 floods. The project entailed the detail design of 13 solutions. Responsible for the detail design of all required elements - road and drainage, documentation and supervision. Involved for 6 person-months. (Provincial Government Western Cape, Department of Transport and Public Works).

Detail design Central Karoo flood damage repairs (Laingsburg Area, Western Cape Province, South Africa) 12/2014 - Date.

Project Design Leader. Aurecon was appointed for the detail design and supervision of the flood damage repairs for the Central Karoo flood damage repairs in the Laingsburg area for the 2013/2014 floods. The project entailed the initial investigation of 56 identified structures and the detail design of 38 solutions. Responsible for the detail design of all required elements - road and drainage, documentation and supervision. Involved for 8 person-months. (Provincial Government Western Cape, Department of Transport and Public Works).

Detail design and QAQC (Civil Works) of the Mulilo Sonnedix Prieska PV Solar Facility (Northern Cape Province, South Africa) 02/2014 - Date.

Project Design Leader. The project entailed the detail design of a new 75 MW PV solar facility near Prieska. Aurecon was appointed to provide the detail design for the 2 km access road to the solar facility as well as the 5.2 km internal road, which included the drainage design for the roads. The project also required a transport management plan and a stormwater management plan for the facility. The QAQC of the civil designed elements for the construction phase of the project have been added to Aurecon's responsibilities. Responsible for the detail design, transport and stormwater management plans, QAQC (Civil Elements), and the final As-builts. Involved for 8 person-months. (Juwi Renewable Energies).

Design for N7 Olifants River bridge crossing near Trawal (Western Cape Province, South Africa) 10/2013 - Date.

Project Design Leader. Aurecon was appointed to provide consulting engineering services for the improvement of the Olifants River bridge crossing. The project entailed the detail design of a second bridge crossing the river and the associated road alignment (dual carriageway), rehabilitation and realignment of the existing road before and after the exiting bridge and the detail design of the Melkboom intersection upgrade. A number of existing structures are located in this section which includes underpasses, as well as irrigation canal crossings. Responsible for the evaluation of possible solutions, cost estimate, design of the geometry for the road and bridge, drainage design for the area, the irrigation canal realignment, intersection layout. Involved for 6 person-months. (South African National Roads Agency Limited (SANRAL)).

Detail design of the new Gouda Weighbridge (Western Cape Province, South Africa) 08/2013 - Date.

Project Design Leader. The project entailed the detail design of the new Gouda Weighbridge facility as well as the intersection upgrade to a roundabout which will serve as entrance to the weighbridge. The weighbridge will facilitate slow speed weigh in motion screening as well as a road worthy centre. Responsible for the facility layout geometric and drainage design and documentation. Involved for 8 person-months. (Provincial Government Western Cape, Department of Transport and Public Works).

Design review, Nojoli Wind Farm (Eastern Cape Province, South Africa) 03/2015 - Date.

Design Reviewer. The project entailed the design and construction of a new 88 MW windfarm near Cookhouse, comprising of 44 Vestas turbines. Responsible for the design review and technical support for all roads, drainage and the turbine platforms. Involved for 2 person-months. (Vestas).

Transport Management Plan for Wind Farm Facility (Western Cape Province, South Africa) 09/2015 – 11/2015.

Project Design Leader. Aurecon was appointed by the Juwi Renewable Energy to conduct a transport and access study in order to confirm access routes and access points for the proposed wind farm development. Responsible for the assessments and preparation of the report. Involved for 1 person-months. (Juwi Renewable Energy).

Transport Management Plans for solar facility (Aggeneys, Northern Cape Province, South Africa) 09/2015 – 10/2015.

Project Design Leader. The project entailed the development of a 40MW PV solar facility. Aurecon was appointed by the Biotherm Energy to conduct a transport study in order to confirm access routes and access points for the proposed solar development. Responsible for the assessments and preparation of the report. Involved for 1 person-months. (BioTherm Energy).

Transport & Stormwater Management Plans for nine proposed solar facilities (Upington, Prieska, Postmastburg, Kathu, Northern Cape Province, South Africa) 10/2014 – 10/2015.

Project Design Leader. The projects entailed the development of 75MW PV solar facilities. Aurecon was appointed by the AREP/Solek to conduct a transport studies in order to confirm access routes and access points as well as an assessment of the stormwater patterns and impacts for the proposed solar developments. Responsible for the assessments and preparation of the reports. Involved for 4 person-months. (AREP/Solek).

Preliminary design for Golden Valley Windfarm, near Cookhouse (Eastern Cape Province, South Africa) 05/2015 – 11/2015.

Project Design Leader. The project entailed the preliminary design of a new 120 MW windfarm near Cookhouse, comprising of 48 turbines. Aurecon was appointed by the GDF to provide procurement support for the civil and electrical Balance of Plant assistance for the procurement of contractors. Responsible for the preliminary design and cost estimate for the CBOP elements, which included the new roads layout, drainage, hardstand, and pavement elements. Involved for 1 person-months. (GDF).

Detail design of the substation platform for Gibson Bay Windfarm near Humansdorp (Eastern Cape Province, South Africa) 06/2015 – 11/2015.

Project Design Leader. The project entailed the detail design of a new 37 WTG's windfarm facility near Humansdorp. Aurecon was appointed to provide the detail design for the new substation (IPP & Eskom yards). Responsible for the detail design of the substation platform, platform levels and layout including required drainage. Involved for 3 person-month. (Consolidated Power Projects (Pty) Ltd).

Preliminary design for Rhebokfontein Windfarm, near Darling (Western Cape Province, South Africa) 05/2015 – 10/2015.

Project Design Leader. The project entailed the preliminary design of a new 100-110 MW windfarm near Darling, comprising of 35 turbines. Aurecon was appointed by the GDF to provide procurement support for the civil and electrical Balance of Plant assistance for the Round 5 Bid submission. Responsible for the preliminary design and cost estimate for the CBOP elements, which included the new roads layout, drainage, hardstand, and pavement elements. Involved for 1 person-months. (GDF).

Design review, Tsitsikamma Community Wind Farm (Eastern Cape Province, South Africa) 09/2014 – 11/2015.

Design Reviewer. Aurecon was appointed to provide technical support to the EPC Contractor (Vestas) for the 94 MW wind farm, comprising 31 Vestas V112 wind turbines, in the Eastern Cape west of Humansdorp. The preliminary design comprised roads, hardstands, foundations and required facilities. Responsible for the design review and technical support for all roads, drainage and the turbine platforms. Involved for 4 person-months. (Vestas).

Technical assistance of the Wilger and Limstone Solar Facility (Northern Cape Province, South Africa) 08/2014 – 02/2015.

Project Design Leader. The project entailed the construction of a new CSP and PV solar facility near Danielskuil. Aurecon were appointed to assist with the approval for access to the site and relocation of existing roads to the boundary of the site. Responsible for the stormwater management plan, access road approval and existing road relocation. Involved for 2 person-month. (Solar Reserve).

Technical assistance of the Kalkaar Solar Facility (Free State Province, South Africa) 08/2014 – 04/2015.

Project Design Leader. The project involved the construction of a new CSP and PV solar facility in Jakobsdal. Aurecon was appointed to assist with the approval for access to the site and relocation of existing roads to the boundary of the site. Responsible for the stormwater management plan, access road approval and existing road relocation. Involved for 1 person-month. (Solar Reserve).

Detail design & Construction Stettynskloof flood damage repairs and associated infrastructure (Western Cape Province, South Africa) 06/2014 – 09/2015.

Project Design Leader. Aurecon was appointed for the detail design and supervision of the flood damage repairs for the Stettynskloof access road and associated infrastructure repairs. The project entailed the detail design of 550m road realignment including a new bridge, number of large cell structure, and numerous culverts to be repaired and improved Total project length is 15km. Responsible for the detail design of all required elements - road and drainage, documentation and assistance during the construction phase. Involved for 5 person-months. (Breede Valley Municipality).

Technical assistance of the Rooipunt Solar Facility (Northern Cape Province, South Africa) 06/2014 – 01/2015.

Project Design Leader. The project entailed the construction of a new CSP and PV solar facility near Upington. Aurecon was appointed to prepare a stormwater management plan as well as assist with the approval for access to the site and relocation of existing roads to the boundary of the site. The stormwater management plan investigated an option to realign the Helbrandlaagte stream. Responsible for the stormwater management plan, access road approval and existing road relocation. Involved for 2 person-month. (Solar Reserve).

Detail design of the Ilanga CSP Solar Facility (Northern Cape Province, South Africa) 06/2014 - 09/2014.

Project Design Leader. The project entailed the detail design of the 10 km access road to the new CSP solar facility 100 MW solar facility near Upington. The detail design for the access road to the solar facility includes the drainage design for the road. Responsible for the detail design. Involved for 2 person-months. (Cobra Energi).

Detail design of the substation platform for Sunpower Mulilo Prieska PV Solar Facility (Northern Cape Province, South Africa) 04/2014 – 07/2014.

Project Design Leader. The project entailed the detail design of a new 75 MW PV solar facility near Prieska/Copperton. Aurecon was appointed to provide the detail design for the new 132/22 kV substation and 132 kV overhead line to the nearby Eskom Kronos substation. Responsible for the detail design of the substation platform. Involved for 1 person-month. (Sunpower Renewable Energy (Pty) Ltd)).

Detail design of the substation platform for Mulilo Sonnedix Prieska PV Solar Facility (Northern Cape Province, South Africa) 04/2014 – 07/2014.

Project Design Leader. The project entailed the detail design of a new 75 MW PV solar facility near Prieska/Copperton. Aurecon was appointed to provide the detail design for the new 132/22 kV substation and 132 kV overhead line to the nearby Eskom Kronos substation. Responsible for the detail design of the substation platform and the substation access road. Involved for 1 person-month. (Mulilo Renewable Energy (Pty) Ltd)).

Preliminary design for Nojoli Windfarm, Cookhouse (Eastern Cape Province, South Africa) 03/2014 - 06/2014.

Project Design Leader. The project entailed the design and construction of a new 88 MW windfarm near Cookhouse, comprising of 44 Vestas turbines. Aurecon was appointed by the EPC contractor (Vestas) to provide the front end engineering design (FEED) for the civil and electrical balance of Plant. Responsible for all the CBOP elements, which included the new roads layout, drainage as well as the preparation of the estimate for quantities for the civil balance of plant. Involved for 2 person-months. (Vestas).

Technical support, Tsitsikamma Community Wind Farm (Eastern Cape Province, South Africa) 03/2014 - 06/2014.

Project Design Leader. Aurecon was appointed to provide technical support to the EPC Contractor (Vestas) for the Tsitsikamma Community wind farm, comprising 31 Vestas V112 wind turbines, near Tsitsikamma. Responsible for the preparation of project specifications for the CBOP section of the contract. This will include all the roads, drainage and the turbine platforms. Involved for 1 person-month. (Vestas).

Detail design of the Sishen Solar grid connection (Northern Cape Province, South Africa) 10/2013 - 11/2013.

Project Design Leader. The project entailed the detail design of the grid connection for the new 74 MW PV solar facility located in the Dibeng Municipality. Aurecon was appointed to provide the detail design for the new 132/33 kV substation and 132 kV overhead line. Responsible for the detail design of the substation platform and access road to the substation. Involved for 1 person-month. (Mulilo Renewable Energy (Pty) Ltd).

Design Review of West Coast 1 Wind Farm (Western Cape Province, South Africa) 10/2013 – 01/2015.

Design Reviewer. Aurecon was appointed to provide technical support to the EPC Contractor (Vestas) for the 94 MW wind farm, comprising 47 Vestas V90 wind turbines north of Vredenburg on the West Coast. The preliminary design comprised roads, hardstands, foundations and required facilities. Responsible for the design review and technical support for all roads, drainage and the turbine platforms. Involved for 4 person-months. (Vestas).

Preliminary design for a proposed wind farm in Namibia (Lüderitz, Namibia) 07/2013 - 08/2013.

Project Design Leader. The project entailed the preliminary design and cost estimate of the civil balance for plant for a new proposed 26 turbine wind farm at Lüderitz. Responsible for all the elements in the preliminary design, which included the new roads layout, drainage as well as the preparation of the estimate for quantities and costs. Involved for 1 person-month. (Goldwind).

Detail design for Uityk traffic circle in Franschhoek (Western Cape Province, South Africa) 06/2013 – 12/2013.

Project Design Leader. The project entailed the detail design of the intersection upgrade to a traffic circle in Franschhoek at the Uityk and Main Road intersection. Responsible for management and design of the traffic circle project, which includes the geometry and drainage design, road signs and marking, accommodation of services, pavement design and all the applicable documentation and specifications. Involved for 2 person-months. (Stellenbosch Local Municipality).

Preliminary design for three proposed wind farms (Western Cape Province, South Africa) 05/2013 - 08/2013.

Project Design Leader. The various projects entailed the preliminary design and cost estimate of the civil balance for plant for three new proposed wind farms. The size of the wind farms ranged between 20 and 45 turbines. Responsible for all the elements in the preliminary design, which included the new roads layout, drainage as well as the preparation of the estimate for quantities and construction costs. Involved for 2 person-months. (Goldwind).

Detail design for Nacala Heavy Haul Rail Corridor, Moatize to Nacala (Mozambique and Malawi) 08/2012 - 04/2013.

Project Design Leader. The project entailed the detail design of the heavy haul railway line, which starts at the new Moatize coal mine in Tete up to the upgraded deep water port at Nacala, Mozambique. The project comprises of 200 km new rail section through the mountainous part of Malawi and 800 km upgraded section through northern Mozambique. Responsible for the new construction sections in a 100 km rehabilitation section, which is part of the existing rail section. Also responsible as team leader for this section and had a CAD operator and a few junior engineers in my team. This section included a number of geometric upgrades and re-alignments of the existing line to accommodate the heavy haul trains. Further responsibilities included the drainage design, new and existing stations upgrades, crossing loops and bill of quantities. Involved for 9 person-months. (Vale).

Detail design for the upgrading of Epe Expressway on Victoria Island, Lagos (Nigeria) 01/2011 – 07/2012.

Assistant resident engineer and on-site designer. The project entailed the detail design of the 50 km road including three toll gates and 12 new roundabouts. The design had to be as close as possible to the existing road structure in terms of the horizontal and vertical alignments. The design also had to be fit for purpose keeping in mind the fast growing and expanding environment. Responsible for the detail design of all road geometry, access, stormwater and drainage, all services and right of way for km 6 to km 49. Also responsible for the design and adjustment of some elements at the toll plazas. Involved for 19 person-months. (Lekki Concession Company Limited).

Preliminary design for Nacala Rail Corridor, Moatize to Nacala (Mozambique and Malawi) 05/2010 - 12/2010.

Design Engineer. The project entailed the design of a section of rail (200 km) through the fairly mountainous section of Malawi. The design included all the geometry, stormwater, drainage, and a service road. Responsible for the geometry, stormwater drainage and service road design for a 30 km section. Involved for 8 person-months. (Vale).

Costing tool update and improvement for SKA Radio Satellite, (Northern Cape Province, South Africa) 01/2010 - 05/2010.

Design Engineer. The project entailed the updating and improving of the costing tool for the construction and maintenance periods for the project. This was mainly for all the roads for the project as well as the drainage. Responsible for the updating and improving of the costing tool for the roads and stormwater sections. Analyses of average cost were also performed. Involved for 2 person-months. (SKA).

Detail design for flood and erosion control structures and road works (Benin City, Nigeria) 12/2009 - 05/2010.

Project Design Leader. The project entailed the prioritisation of the major stormwater corridors and the detail design of the top few priorities, which amount to 24 km of road, pipes, culverts, major channels. The design entailed the geometry and typical details for stormwater corridors and adjacent roads. Responsible for coordinating and design. Involved for 5 person-months. (Hitech Construction; Edo State Ministries).

Detail design for the upgrading of Epe Expressway on Victoria Island, Lagos (Nigeria) 09/2008 - 12/2009.

Assistant resident engineer and on-site designer. The project entailed the detail design of the 50 km road including three toll gates and 12 new roundabouts. The design had to be as close as possible to the existing in terms of the horizontal and vertical alignments. The design also had to be fit for purpose and was done on site. Responsible for the detail geometry design. Involved for 16 person-months. (Lekki Concession Company Limited).

Detail design for the upgrading of Epe Expressway on Victoria Island, Lagos (Nigeria) 06/2008 - 07/2008.

Design Engineer. The project entailed the detail design of the 50 km road including three toll gates. The design had to be as close as possible to the existing in terms of the horizontal and vertical alignments. The design also had to be fit for purpose and was done on site. Responsible for detail design of km 4 to km 23. Involved for 1 person-month. (Lekki Concession Company Limited).

Detail design for the new permanent access road to the new Vale coal mine, Tete (Mozambique) 06/2008 - 08/2008.

Design Engineer. The project entailed the detail design of the 24 km road between the main public road and the main mine yard and offices. The design had to be done in order to optimise the mass earth works volumes. Responsible for optimum route determination and geometry design. Involved for 2 person-months. (Vale).

Detail design for the western access road to Nova Vida, Luanda (Angola) 04/2008.

Design Engineer. The project entailed the detail design the main access road (1.2 km) to the residential area - Nova Vida. This included the detail design of two roundabouts. Responsible for the geometric and drainage design and compiling of drawings. Involved for 1 person-month. (Instituto de Estradas de Angola (INEA)).

Conceptual design for the new permanent access road to the new Vale coal mine, Tete (Mozambique) 04/2008 - 06/2008.

Design Engineer. The project entailed the conceptual design of the 24 km road between the main public road and the main mine yard and offices. Responsible for bill of quantities for the main access road. Involved for 1.5 person-months. (Vale).

Detail design for the upgrading of Desvio de Quibaxe to Pango Aluquem Road to bituminous standard (Angola) 01/2008 - 03/2008.

Design Engineer. The project entailed the detail design the road between Desvio de Quibaxe to Pango Aluquem - 35 km road and three intersections. Responsible for geometric design, stormwater, road signs and road markings. Also responsible for compilation and management of all drawings. Involved for 2 person-months. (Instituto de Estradas de Angola (INEA)).

Detail design for the upgrading of Hally within the boundaries of the Emfuleni Local Municipality (South Africa) 06/2007.

Design Engineer. The project entailed the design of the upgraded road of 2.5 km. Responsible for the geometric and drainage design, typical details as well as compiling and management of all drawings. Involved for 0.25 person-months. (Emfuleni Local Municipality).

Detail design for the upgrading of Laela - Sumbawanga road to bituminous standard (Tanzania) 05/2007 - 12/2007.

Design Engineer. The project entailed the detail design the road between Laela - Sumbawanga - 94 km road. Responsible for the geometric and drainage design, typical details as well as compiling and management of all drawings. Also responsible for providing assistance with road signs and markings. Involved for 8 person-months. (Tanzania National Roads Agency (TANROADS)).

Detail design for the upgrading of Epe Expressway on Victoria Island, Lagos (Nigeria) 04/2007.

Design Engineer. The project entailed the detail design of the 50 km road including three toll gates and 12 new roundabouts. The design had to be as close as possible to the existing in terms of the horizontal and vertical alignments and was done on site. Responsible for geometric design for the first 2.5 km. Involved for 1 person-month. (Lekki Concession Company Limited).

Detail design for the re-alignment of road T2 between Chirundu and Lusaka (Zambia) 08/2006 - 03/2007.

Design Engineer. The project involved the re-alignment of a total of 17 km over a total length of 35 km of road. The road had to be re-aligned both horizontally and vertically with special attention having to be paid to constructability of the road. Design included an arrestor bed as well as a compulsory stop point. Responsible for the geometric and drainage design, typical details, arrestor bed design and for providing assistance with road signs and markings. Also responsible for compilation and management of all drawings. Involved for 8 person-months. (Republic of Zambia - Department of Works and Supply Roads).

Detail design of weighbridge facility at Save (Mozambique) 07/2006 - 09/2006.

Design Engineer. The project entailed the complete design of the weighbridge facility. Responsible for the geometric and drainage design, typical details and the compilation and management of all drawings. Involved for 3 person-months. (Administracao Nacional de Estradas (ANE)).

Detail design of new weighbridge facility at Marracuene (Mozambique) 04/2006 - 06/2006.

Engineer-in-training. The project entailed the complete design of the weighbridge facility. Responsible for assistance with the geometric and drainage design, typical details and providing assistance with bill of quantities. Involved for 3 person-months. (Republic of Mozambique - National Directorate of roads and Bridges (DNEP)).

Detail design for the upgrading of Friedman Street and George Street within the boundaries of the Emfuleni Local Municipality (South Africa) 01/2006 – 03/2006.

Engineer-in-training. The project entailed the design of the upgraded road of 2.5 km. Responsible for the geometric and drainage design, typical details and the compilation and management of all drawings. Involved for 1 person-month. (Emfuleni Local Municipality).

Education

2007 : BEng (Hons) (Transportation), University of Pretoria, South Africa
2005 : BEng (Civil), University of Pretoria, South Africa

Career Enhancing Courses

2010 : LIC 7 - Labour Intensive Construction, SAVE SA
2014 - Date : PL200 - Project Leader, Aurecon
2015 - Date : FOL - Foundation of Leadership, Aurecon

Professional Affiliations

Professional Engineer, Engineering Council of South Africa (ECSA)
Member, South African Institution of Civil Engineering (SAICE)

Languages

	Reading	Writing	Speaking
English	Excellent	Excellent	Excellent
Afrikaans	Excellent	Excellent	Excellent

By my signature below I certify the correctness of the information above and my availability to undertake this assignment.

Signature of Staff Member

Date